# JUL 2 2 2003 TO

### VIA HAND DELIVERY TO EXAMINER JEZIA RILEY

## IN THE UNITED STATES PATENT AND TRADEMAY (Case No. 00-713-i15)

In re A	Application of:	)	
	Chad A. Mirkin, et al.	)	
	, , , , , , , , , , , , , , , , , , ,	)	Examiner: Jezia Riley
Serial	No.: 09/975,059	í	
	·	)	Group Art Unit: 1637
Filed:	October 11, 2001	)	•
		)	Confirmation No. 2661
For:	NANOPARTICLES HAVING	)	
	OLIGONUCLEOTIDES ATTACHED	)	
	THERETO AND USES THEREFOR	)	

Assistant Commissioner for Patents Washington, D.C. 20231

#### SIXTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In order to comply with discretionary regulations 37 CFR §§1.97 and 1.98, attached hereto is Form PTO-1449, copies<sup>1</sup> of the documents listed thereon: These documents contain information which the Examiner may consider to be important in deciding whether to allow the present application to issue as a patent.

- Merrill, et al., U.S. Patent No. 5,830,986, issued November 3, 1998.
- 2. Lough, et al., U.S. Patent No. 5,900,481, issued May 4, 1999.

To the extent that a document is listed and no copy of same is attached, then such document is not at the present time available to the undersigned or is available in the file of a parent application. If a listed document is not in the English language and an English translation is readily available, such translation is also attached; if translation is not attached it is not readily available to the undersigned. If a foreign language patent document is cited, and an English language equivalent is known to the undersigned, then such equivalent patent is also cited on the attached form along with the corresponding foreign language patent and a connecting arrow indicated therebetween; if no such English language equivalent is cited, then none is known to undersigned.

- 3. Goldberg, et al., U.S. Patent No. 6,203,989, issued March 20, 2001
- 4. Bawendi, et al., U.S. Patent No. 6,251,303, issued June 26, 2001.
- 5. Abbott, et al., U.S. Patent No. 6,277,489, issued August 21, 2001.
- 6. Bawendi, et al., U.S. Patent No. 6,306,610, issued October 23, 3001
- 7. Mirkin, et al, U.S. Patent No. 6,361944, issued March 26, 2002.
- 8. Wagner, et al., U.S. Patent No. 6,365,418, issued April 02, 2002
- 9. Mirkin, et al., U.S. Patent No. 6,417,340, issued July 09, 2002
- 10. WO 93/25709 published 23 December 1993.
- 11. WO 98/04740 published 5 January 1998
- 12. WO 98/17317 published 30 April 1998
- 13. WO 99/60169 published 25 November 1999
- 14. WO 00/33079 published 8 June 2002
- 15. WO 01/00876 published 4 January 2001
- 16. WO 01/51665 published 19 July 2001
- 17. WO 01/73123 published 4 October 2001
- 18. WO 01/86301 published 15 November 2001
- 19. WO 02/04681 published 17 January 2002
- 20. WO 02/18643 published 7 March 2002
- 21. WO 02/36169 published 10 May 2002
- 22. WO 02/46483 published 13 June 2002
- 23. WO 02/46472 published 13 June 2002
- 24. Letsinger, R., et al., "Chemistry of Oligonucleotide-Gold Nanoparticle Conjugates," *Phosphorus, Sulfur and Silicon*, Volume 144, p. 359-362 (1999)

that the cited documents represent the results of a complete search, and it is anticipated that the Examiner, in the normal course of examination, will make an independent search and will determine the best prior art consistent with 37 CFR 1.104(a) and 1.106(b) and, in the course of each search, will review for relevance every document cited on the attached form even if not initialed.

Early and favorable consideration is earnestly solicited

Dated:

McDonnell Boehnen Hulbert & Berghoff

300 South Wacker Drive Chicago, Illinois 60606 Telephone: (312) 913-0001

Telephone: (312) 913-0001 Facsimile: (312) 913-0002 Emily Miao

Registration No. 35,285

tfully submitted,

FORM PTO-1449 (Rev. 2-32)

U.S. Department of Commerce Patent and Trademark Office

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

Atty. Docket N .

Serial No.

Sheet 1 of 3

00-713-i15

COPY

Applicant:

Chad A. Mirkin, et al.

Filing Date:

Group:

October 11, 2001

1637

**U.S. PATENT DOCUMENTS** 

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1.	5,830,986	11/03/98	Merrill, et al.	528	332	10/28/96
	2.	5,900,481	05/04/99	Lough, et al.	536	55.3	11/06/96
	3.	6,203,989	03/20/01	Goldberg, et al	435	6	03/25/99
	4.	6,251,303	06/26/01	Bawendi, et al.	252	301.4R	09/18/98
	5.	6,277,489	08/21/01	Abbott, et al.	428	403	12/04/98
	6.	6,306,610	10/23/01	Bawendi, et al.	435	7.1	09/17/99
	7.	6,361,944	03/26/02	Mirkin, et al.	435	6	06/25/99
	8.	6,365,418	04/02/02	Wagner, et al.	436	518	05/18/00
	9.	6,417,340	07/09/02	Mirkin, et al.	536	23.1	10/20/00

**FOREIGN PATENT DOCUMENTS** 

	. Document Number	Date	Country	Class	Subclass	Trans Yes	slation No
 10.	WO 93/25709	23 December 1993	PCT				
 11.	WO 98/04740	5 February 1998	PCT				
12.	WO 98/17317	30 April 1998	PCT				
13.	WO 99/60169	25 November 1999	PCT				
 14.	WO 00/33079	8 June 2002	PCT				
15.	WO 01/00876	4 January 2001	- PCT				

**EXAMINER** 

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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#### **U.S. Department of Commerce** Patent and Trademark Office

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**FOREIGN PATENT DOCUMENTS** 

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16.	WO 01/51665	19 July 2001	PCT				
17.	WO 01/73123	4 October 2001	PCT				
18.	WO 01/86301 /	15 November 2001	. PCT				
19.	WO 02/04681 /	17 January 2002	PCT				
20.	WO 02/18643 /	7 March 2002	PCT				
21.	WO 02/36169 /	10 May 2002	PCT				
, 22.	WO 02/46483 /	13 June 2002	PCT				
23.	WÔ 02/46472 /	13 June 2002	- PCT				

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).
24.	Letsinger, R., et al., "Chemistry of Oligonucleotide-Gold Nanoparticle Conjugates," Phosphorus, Sulfur and Silicon, Volume 144, p. 359-362 (1999)
25.	Letsinger, R., et al., "Use of a Steroid Cyclic Disulfide Anchor in Constructing Gold Nanoparticle—Oligonucleotide Conjugates," Bioconjugate Chem, p. 289-291 (2000)

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		<u> </u>				

October 11, 2001

1637

POREIGN PATENT DOCUMENTS

Document Number

Date

Country

Class

Subclass

Translation

Yes

No

26. Li Z., et al., "Multiple thiol-anchor capped DNA-gold nanoparticle conjugates," *Nucleic Acids Research*, Volume 30, p. 1558-1562 (2002)

27. Nuzzo R., et al., "Spontaneously Organized Molecular Assemblies. 3. Preparation and Properties of Solution Adsorbed Monolayers of Organic Disulfides on Gold Surfaces, " *J. Am Chem. Soc.*, Volume 109, p. 2358-2368 (1987)

28. Otsuka, H., et al., "Quantitative and Reversible Lectin-Induced Association of Gold Nonoparticles Modified with D-Lactosyl-D-mercapto-poly(ethyleneglycol)," *J. Am Chem. Soc.*, Volume 123, p. 8226-8230 (2001)

29. Wuelfing, P., et al., "Nanometer Gold Clusters Protected by Surface-Bound Monolayers of Thiolated Poly(ethylene glycol) Polymer Electrolyte," *J. Am Chem. Soc.*, Volume 120, p. 12696-12697 (1998)

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